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February 16th, 1995

Mr. William Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554

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FCC MAIL ROOM

Re : WT Docket No. 94-148

Dear Mr. Caton:

Transmitted herewith are an original and nine (9) copies of the Comments of Western Multiplex Corporation in response to the above Notice of Proposed Rulemaking by the Commission released on December 28th 1994.

Please address any questions concerning this matter directly to the undersigned.

Very truly yours,

A handwritten signature in cursive script, appearing to read 'Graham Barnes', is written over a horizontal line.

Graham Barnes
Director of Marketing

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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of
Reorganization and Revision of
Parts 1, 2, 21, and 94 of
the Rules to Establish a New
Part 101 Governing Terrestrial
Microwave Fixed Radio Services

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FEB 17 1995

To : The Commission

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COMMENTS
on
NOTICE OF PROPOSED RULEMAKING
by
WESTERN MULTIPLEX CORPORATION

I. INTRODUCTION

Pursuant to Sections 1.415 and 1.419 of the Commission's Rules, Western Multiplex Corporation (WMC) hereby submits these comments on the Notice of Proposed Rule Making (NPRM) for the reorganization and revision of Parts 1, 2, 21, and 94 of the Rules to establish a new Part 101 governing terrestrial microwave fixed radio stations.

WMC is exclusively a manufacturer of fixed point-to-point terrestrial microwave radio equipment serving private microwave users and common carriers. WMC has been in business for more than 15 years.

II. ADOPTION OF PART 101 IS IN THE PUBLIC INTEREST

WMC enthusiastically supports the Commission's objectives in this proceeding and welcomes the timely adoption of a uniform set of rules for private and common carrier fixed point-to-point microwave licensees and applicants. The objective of new rules that are easier to understand and use, and that will aid the relocation of 2 GHz licensees for PCS, is clearly in the public interest.

III. JOINT COMMENTS BY TIA AND NSMA

WMC also offers enthusiastic support to the Joint Comments by the TIA and NSMA and applauds their detailed work on this proceeding. However, WMC has not been a participant in the preparation of these comments and has only recently received an advance copy. These comments are very substantial and in the time available, only a brief review has been possible. Based upon this review, WMC supports the general position of the Joint Commenters on all issues raised in their comments. However, WMC reserves the right to respond in more detail during the Reply Comments phase of this NPRM proceeding, after a more thorough review and adds specific comments, below, based solely on the NPRM document. Ideally, WMC would like to see the issue of a new document containing all of the TIA/NSMA comments incorporated into the Part 101 Rules for comment. It will not be easy for anyone to comment on both documents - or for the Commission to coordinate comments from other parties with the comments from TIA/NSMA.

IV. EQUAL TREATMENT FOR PRIVATE AND COMMON CARRIER USERS

1. WMC supports the adoption of exactly the same technical standards for private and common carrier users. The NPRM should be modified to allow this, including issues relating to frequency tables, channel loading, antenna standards, etc. For example, the 27,500 - 29,500 MHz band listed in the table in Section 101.101 should be available to private users as well as common carriers and the 38,600 - 40,000 MHz band should be added to Section 101.605 per Section 101.703 (k) as shown in the table in Section 101.101. (Also, the special requirements for 38,600 - 40,000 MHz in Section 101.723 should be added to the Section H.)

2. WMC supports the adoption of the same application, authorization and construction rules for private and common carrier users. This includes temporary fixed authorizations for private users, the same application forms for both types of user, the same coordination rules, notifications and the same timescales for constructing and operating stations. There are also numerous instances in the NPRM of common carrier references in Sections which appear to be applicable to private and common carrier users, e.g. 101.103 (d) (2) (vi) and (xi).

V. SPECIFIC COMMENTS BY WMC

1. Does the frequency stability temperature range listed in 2.995 (-20 deg C to +50 deg C) apply to microwave radio equipment authorized for use under Part 101? This and previous wording has left some doubt among manufacturers, many of whom have felt the need to test down to -30 degC.

2. The interference protection criteria in Section 101.105 includes "Other procedures" in subpart (c) (1) which is vague and undefined. The sentence containing this reference should be either deleted or defined in view of the comprehensive nature of the TSB-10 document. Also, the C/I figures in subpart (c) (2) of 90 dB co-channel and 56 dB adjacent channel appear to be incorrect and should be modified or deleted as they represent worst case figures in an earlier revision of TSB-10 which does not currently apply.

3. The license period of 10 years contained in Section 101.67 is a new proposal. It is less than the typically accepted lifetime of microwave equipment (15 years). The NPRM does not make it clear exactly what will happen to new licenses after the 10 year period expires or what will happen to existing licenses that will have exceeded a 10 year period.

4. The channel loading requirements of Section 101.721 should be the same for private and common carrier users. Section 101.141 lists standards for digital radios and a Section is required for analog voice and analog video radios. In general, loading requirements for analog and digital systems should be open, known and clear. Also, digital

loading standards should be based upon DS-1 loading and not on voice channel or data capacity numbers.

5. The frequency tables listed in Sections 101.605 (private) and 101.703 (common carrier) in the 6 GHz and 10 GHz bands for the channel bandwidths below 10 MHz (101.605 (h) (i), (j), and (k) and 101.703 (e), (f), (g), and (h) respectively) are unnecessarily precise, being specified to the nearest 1 kHz in many cases. The frequency stability tolerance of 0.005% (Section 101.107) allows 300 kHz at 6 GHz and 500 kHz at 10 GHz. The center frequencies contained in these tables were derived on a purely theoretical basis assuming perfect frequency stability, analog modulation and antiquated crystal phase-locked source oscillators. The advantages of modern frequency synthesizer designs can be implemented with improved performance and unnecessarily complex and costly circuits with more reasonable step increments consistent with the established frequency stability limits and without defining center frequencies down to 1 kHz. Therefore, WMC proposes that all center frequencies in the 6 GHz and 10 GHz tables be rounded to the nearest 100 kHz frequency.

6. Section 101.115 (f) states that no private users will be authorized for new periscope antennas in bands shared with common carriers. As WMC understands it, the intent of the NPRM is that all bands above 3 GHz will be shared by both private and common carrier users. Are there then any bands in which new periscope antennas will be authorized? If not, then this should be clearly and explicitly stated.

7. WMC does not feel that the current NPRM provides clear and consistent definition of major and minor license modifications. Both private and common carriers

need to understand clearly which modifications they can make without FCC authorization and which will not cause reversion to secondary status in the 2 GHz bands. The permitted minor modifications should, of course, be the same for both types of user and the procedure for authorization of major modifications should also be the same for both types of user.

8. The transition to the new rules should not penalize existing users but be rapid enough to apply to the 2 GHz relocation process. Because the PCS relocation process is already under way, WMC proposes that the new rules should apply to all 2 GHz relocations for PCS as soon as they are adopted. WMC also proposes that the new rules would apply to new license applications and license modifications no later than 12 months after adoption. WMC leaves it up to the Commission to determine the best method for identifying which applications are caused by the PCS relocation process.

9. Section 101.123 (c) requires that "in quiet zones." be added.

10. Section 101.139 (f) - the reference to "101.139" should be to "101.141 (3)".

11. Section 101.113 (a) (2) on transmitter power limitations states that "The power delivered to the antenna is limited to -3 dBW." This restriction should be removed as it is irrelevant given the various EIRP limits contained in 101.113 (a) and the various antenna gain figures in 101.115.

VI. CONCLUSION

In summary, WMC welcomes the opportunity to participate in this important proceeding and hopes that the new rules contained in the NPRM as modified by the TIA/NSMA comments and the WMC comments above can be rapidly adopted and implemented in the public interest.

Respectfully submitted,

WESTERN MULTIPLEX CORPORATION

By : 

Date : ^{Feb}~~January~~ 16th, 1995

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